



**PURE
FORM
CARBON**

Pyrolysis Expertise
&
Renewable Fuel Solutions





About Our Manufacturing

- Over 20 years of R&D in renewable fuels and pyrolysis.
- Trusted consultancy for industries in India and globally.
- End-to-end solutions: Design, Development, and Manufacturing.
- Strong focus on efficient, eco-friendly operations.

Our Motive

- Address global challenges with renewable fuels.
- Reduce fossil fuel dependency.
- Lower GHG emissions and improve air quality.
- Enhance energy security & support local economies.
- Foster a cleaner, greener, and sustainable future.

Core Offerings (Overview)

Pure Form Carbon: Comprehensive Solutions in Renewable Fuel Technology. We offer end-to-end solutions in pyrolysis and renewable energy through design, development, and manufacturing of advanced systems.

Our core offerings include:

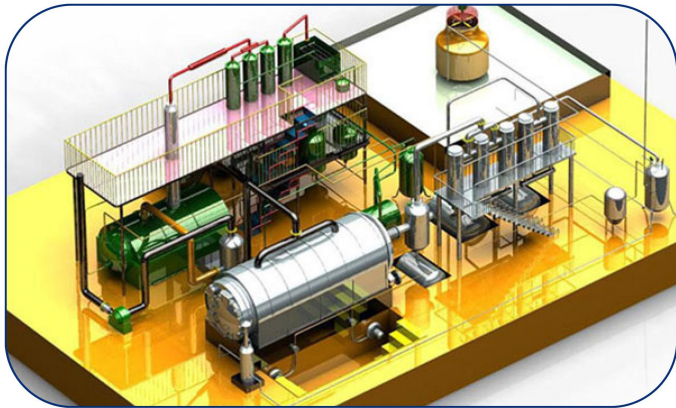
1. Pyrolysis Plants
2. Gasifiers
3. Hydrogen Production (RUDRA Technology)
4. Pellet Dryers
5. Volatile Matter (VM) Removal Machines
6. Vacuum Distillation Units
7. Biomass Pyrolysis & Char Activation



1. Pyrolysis Plant Solutions

Custom-engineered systems for Tyre, Plastic, and Paper Waste

- Feedstock testing and lab-scale pyrolysis for optimized design
- Advanced separation of heavy oil, wax, and tar for continuous operation
- High automation with pre-diagnostic software and HMI integration
- Emphasis on thermodynamics, heat transfer, and robust material handling



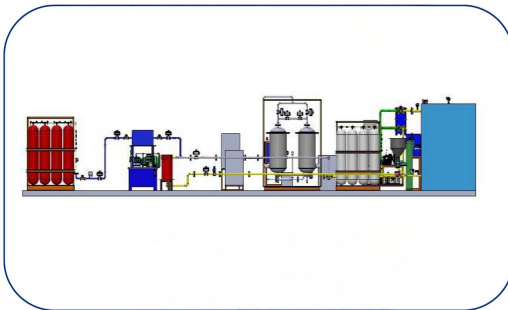
Pyrolysis Expertise

- Thermal decomposition mastery.
- Feedstock versatility: plastics, rubber, organics, industrial residues.
- Output: Biochar, Bio-Oil, Syngas.
- Experience with bamboo, bagasse, nut shells, rice husk, and more.

2. Gasifiers

Customized Gasification Systems for Diverse Biomass Feedstocks

- Expertise in handling woody mass, agro-residues, and mixed feedstock
- Multi-feed capability with optimized fuel-to-energy conversion
- Tailored design based on lab testing and material composition analysis
- Designed for off-grid energy generation and sustainable industries



3. Hydrogen Production (RUDRA Technology)

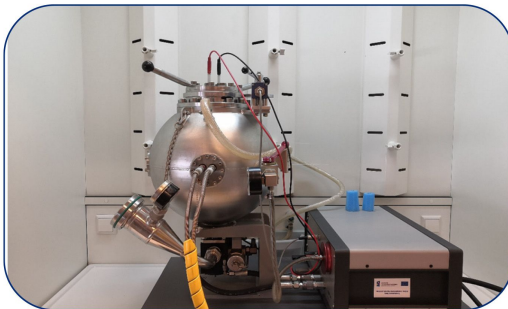
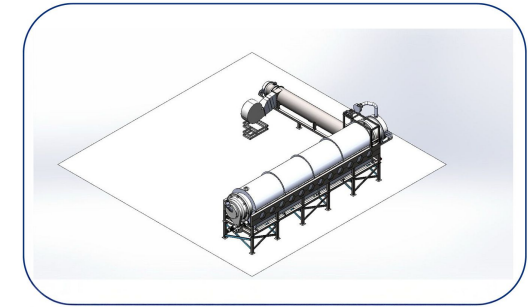
Methane Pyrolysis for Clean Hydrogen and Carbon Black

- Modular units scalable for various capacities
- Converts CH_4 to Hydrogen (H_2) and solid Carbon
- Generates valuable Carbon Black as a co-product
- Economical, emission-free hydrogen generation from biogas/natural gas

4. Pellet Dryer Systems

Gentle Drying Solutions for Carbon Black Pellets

- Specialized for 2mm delicate carbon pellets
- Reduces fines loss and maintains pellet integrity
- Consistent moisture control for industrial standards
- Ideal for downstream applications in rubber and plastics industries



5. VM Removal Machines (Thermolyser)

Volatile Matter Extraction for Clean Pyrochar (rCB)

- Reduces VM to below recommended levels (<5%)
- Removes heavy oils, asphaltenes, and PAHs safely
- Enables clean, processable pyrochar for rubber industry
- Captures oils in liquid form via controlled evaporation

6. Vacuum Distillation Units

High-Purity Oil Recovery from Pyrolysis Outputs

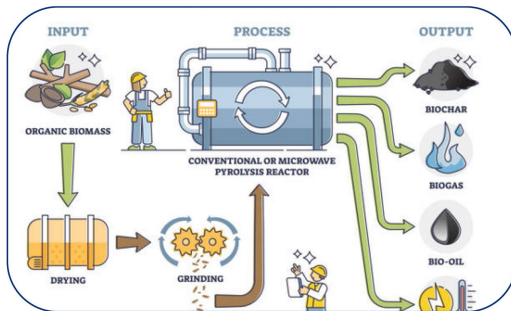
- Operates on pyrolysis gas for self-sustained energy
- Simple and column-based options available
- Controls TAN, oxygenates, chlorides, and sulphur with additives
- Designed for fuel-grade and industrial-grade oil production



7. Biomass Pyrolysis & Char Activation

Sustainable Conversion of Agro-Waste into Valuable Products

- Feedstocks: Bamboo, Bagasse, Coconut Shells, Hazelnut, Almond, etc.
- Products: Biochar, Bio-oil, Wood Vinegar, Syngas
- Uses IR Furnace CO₂ activation for superior char quality
- Supports organic farming and carbon sequestration

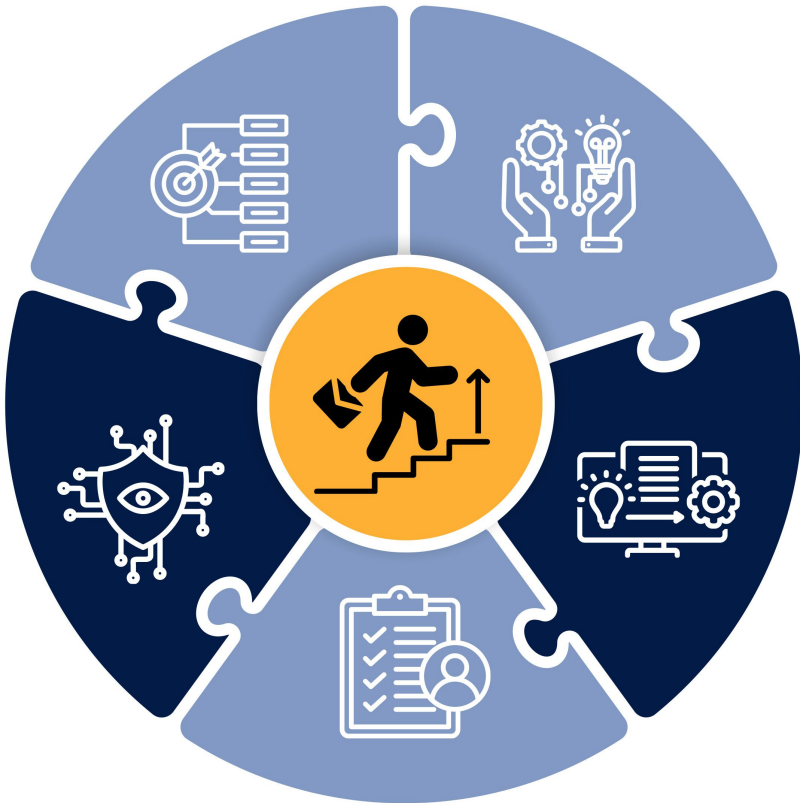


Quick Summary of Core Offerings

Sl No.	Offering	Purpose	Feedstock/Process	Key Output(s)	Unique Feature
1	Pyrolysis Plants	Waste-to-fuel conversion	Tyre, Plastic, Paper waste	Oil, Carbon Black, Gas	Advanced automation, wax separation
2	Gasifiers	Biomass-to-energy system	Woody mass, Agro-residues	Syngas	Multi-feed flexibility, material-specific design
3	Hydrogen Production (RUDRA)	Clean hydrogen from methane pyrolysis	Methane, Biogas	Hydrogen, Carbon Black	Modular, carbon-neutral H ₂ generation
4	Pellet Dryers	Drying of carbon pellets	Carbon Black Pellets	Dry, intact pellets	Fine control for 2mm delicate pellets
5	VM Removal Machines	De-volatilization of pyrochar	Rubber-derived Carbon Black	Cleaned Pyrochar	Reduces VM <5%, captures oils
6	Vacuum Distillation Units	Refining pyrolysis oil to usable fuel	Pyrolysis Oil	Fuel-grade/distillate oils	Uses pyrolysis gas, additive-supported purification
7	Biomass Pyrolysis & Activation	Sustainable char and bio-product generation	Agro-waste (bamboo, shells, bagasse, etc.)	Biochar, Bio-oil, Wood Vinegar, Syngas	IR Furnace CO ₂ activation, eco-friendly outputs

Unique Selling Propositions (USPs)

- In-house R&D and testing lab.
- Scientifically selected materials & insulation.
- Precision fabrication using international standards (TIG, MIG).
- Full automation with IoT, HMI, and remote monitoring.
- Recipe control and 3-month Amazon cloud storage.
- Expert guidance and plant staff training.



Key Attributes of Our Technology

- **Custom Designs** – Client-specific, thermodynamically optimized.
- **Zero Liquid Discharge** – Clean, compliant operations.
- **Compact Footprint** – Space-efficient.
- **Gas Pressure Automation** – Precision-controlled.
- **User-Friendly Interface** – Minimal training needed.
- **Reliability, Safety, and Efficiency** – Built-in at every step.



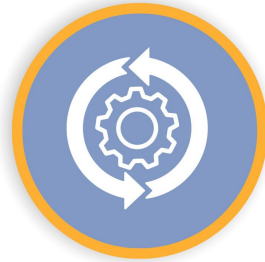
Projects & Collaborations

Turnkey pyrolysis solutions delivered across India and overseas.



Continuous tech upgrades and optimization support

Design, development, and commissioning included



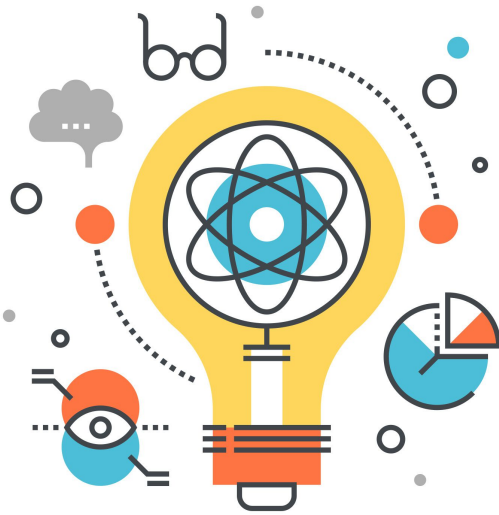
Strong client partnership ethos.

Facility & Infrastructure

- **Area:** 6914 Sq. Mtr land; 2835.88 Sq. Mtr covered.
- **Sheds:** Dedicated areas for fabrication and machining.
- **Machinery:** TIG/MIG welding, lathe, plasma cutting, rolling, drilling.
- **Logistics:** In-house CNG goods carrier for efficiency.
- **Software:** AutoCAD with power backup systems.



R&D, Testing & Support



- **Testing:** Hydro & radiographic testing for performance and flaw detection
- **Calibration & Training:** Regular tool calibration and skill upgradation
- **NDT:** Ultrasonic & dye penetrant testing for weld and material integrity
- **Quality Assurance:** Strict QA for reliable, high-performance products
- **Fabrication Support:** Laser cutting, CNC bending, and precision machining
- **Logistics:** In-house CNG carrier for efficient, timely deliveries
- **Design Tools:** AutoCAD on UPS-backed systems for seamless operations

